

**STANDARDS PRESENTATION  
TO  
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD**

Attachment No. 1

Page 1 of 3

PROPOSED STATE STANDARD,  
TITLE 8, CHAPTER 4

§5144. Respiratory Protection.

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Appendix A to Section 5144:

Fit Testing Procedures (Mandatory)

Part I. OSHA-Accepted Fit Test Protocols

A. Fit Testing Procedures--General Requirements. \* \* \*

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14. Test Exercises.

(a) Employers must perform ~~the following test exercises are to be performed~~ for all fit testing methods prescribed in this appendix, except for the CNP ~~method~~ quantitative fit testing protocol and the CNP REDON quantitative fit testing protocol. For these two protocols, employers must ensure that the test subjects (i.e., employees) perform the exercise procedure specified in section I.C.4(b) of this appendix for the CNP quantitative fit testing protocol, or the exercise procedure described in section I.C.5(b) of this appendix for the CNP REDON quantitative fit-testing protocol. For the remaining fit testing methods, employers must ensure that employees A separate fit testing exercise regimen is contained in the CNP protocol. The test subject shall perform the test exercises; in the appropriate test environment; in the following manner:

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C. Quantitative Fit Test (QNFT) Protocols. \* \* \*

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4. \* \* \* The CNP instrument manufacturer ~~Dynatech Nevada~~ Occupational Health Dynamics of Birmingham, Alabama also provides attachments (sampling manifolds) that replace the filter cartridges to permit fit testing in an employee's own respirator. \* \* \*

(a) CNP Fit Test Requirements. \* \* \*

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(5) The employer must train the test subject ~~shall be trained~~ to hold his or her breath for at least ~~20~~ 10 seconds.

**STANDARDS PRESENTATION  
TO  
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD**

Attachment No. 1

Page 2 of 3

**PROPOSED STATE STANDARD,  
TITLE 8, CHAPTER 4**

(6) The test subject ~~shall~~ must don the test respirator without any assistance from the ~~individual test administrator~~ who is conducting the CNP fit test. The respirator must not be adjusted once the fit-test exercises begin. Any adjustment voids the test, and the test subject must repeat the fit test.

(7) The QNFT protocol shall be followed according to section I.C.1. of this appendix ~~with an exception for the CNP test exercises.~~

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(c) CNP Test Instrument.

(1) The test instrument ~~shall~~ must have an effective audio warning device, or a visual-warning device in the form of a screen tracing, that indicates when the test subject fails to hold his or her breath during the test. The test shall be terminated and restarted from the beginning whenever the test subject ~~failed~~ fails to hold his or her breath during the test. The test subject then may be refitted and retested.

(2) A record of the test shall be kept on file, assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model, style and size of respirator used; and date tested.

5. Controlled negative pressure (CNP) REDON quantitative fit testing protocol.

(a) CNP REDON Fit Test Requirements. When administering the CNP REDON protocol to test subjects, employers must comply with the CNP fit test requirements specified in section I.C.4.(a) of this appendix.

(b) CNP REDON Test Exercises.

(1) Employers must ensure that each test subject being fit tested using this protocol follows the exercise and measurement procedures, including the order of administration, described below in Table A-1 of this appendix.

**Table A-1. -- CNP REDON Quantitative Fit Testing Protocol**

<u>Exercises<sup>(1)</sup></u>	<u>Exercise procedure</u>	<u>Measurement procedure</u>
<u>Facing Forward</u>	<u>Stand and breathe normally, without talking, for 30 seconds.</u>	<u>Face forward, while holding breath for 10 seconds.</u>
<u>Bending Over</u>	<u>Bend at the waist, as if going to touch his or her toes, for 30 seconds.</u>	<u>Face parallel to the floor, while holding breath for 10 seconds</u>
<u>Head Shaking</u>	<u>For about three seconds, shake head back and forth vigorously several times while shouting.</u>	<u>Face forward, while holding breath for 10 seconds.</u>
<u>REDON 1</u>	<u>Remove the respirator mask, loosen all facepiece straps, and then redon the respirator mask.</u>	<u>Face forward, while holding breath for 10 seconds.</u>
<u>REDON 2</u>	<u>Remove the respirator mask, loosen all facepiece straps, and then redon the respirator mask again.</u>	<u>Face forward, while holding breath for 10 seconds.</u>

<sup>1</sup> Exercises are listed in the order in which they are to be administered.

**STANDARDS PRESENTATION  
TO  
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD**

Attachment No. 1

Page 3 of 3

PROPOSED STATE STANDARD,  
TITLE 8, CHAPTER 4

(2) After completing the test exercises, the test administrator must question each test subject regarding the comfort of the respirator. When a test subject states that the respirator is unacceptable, the employer must ensure that the test administrator repeats the protocol using another respirator model.

(3) Employers must determine the overall fit factor for each test subject by calculating the harmonic mean of the fit testing exercises as follows:

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$$\text{Overall Fit Factor} = \frac{N}{[1/FF_1 + 1/FF_2 + \dots 1/FF_N]}$$

Where:

N = The number of exercises;

FF1 = The fit factor for the first exercise;

FF2 = The fit factor for the second exercise; and

FFN = The fit factor for the nth exercise.

(c) CNP REDON Test Instrument. When administering the CNP REDON protocol to test subjects, employers must comply with the CNP test instrument requirements specified in section I.C.4.(c) of this appendix.

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NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.